

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN DIEGO REGION**

**FACT SHEET**

**TENTATIVE ORDER NO. R9-2003-0265  
NPDES PERMIT NO. CA0107867**

**WASTE DISCHARGE REQUIREMENTS**

**FOR**

**U.S. NAVY GRAVING DOCK**

**LOCATED AT**

**NAVAL STATION SAN DIEGO**

**SAN DIEGO COUNTY**

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### **Attachment**

Memorandum dated 22 July 2002; Hull coating leachate, underwater hull cleaning (*underwater ship husbandry*), and radioactivity concerns mentioned during workshop on 27 June 2002.

## CONTACT INFORMATION

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## BACKGROUND

The United States Navy Graving Dock (USN Graving Dock) is an existing facility capable of conducting full service ship modification, repair, and maintenance activities. Operations at the USN Graving Dock generate or have the potential to generate discharges of waste to San Diego Bay. The waste discharges may cause a short-term loss of designated beneficial uses of the receiving water. The discharges may include industrial process water and/or storm water contaminated with abrasive blast material, paint, oils, lubricants, fuels, or solvents.

The USN Graving Dock is currently regulated by Order No. 98-53, National Pollutant Discharge Elimination System (NPDES) Permit No. CA0107867, and has been regulated by an NPDES permit since 1987. On February 11, 2003 the *U.S. Navy, Commander, Navy Region Southwest* (CNRSW) submitted a Report of Waste Discharge (RWD) for an NPDES permit renewal for the USN Graving Dock Facility.

By letter dated March 7, 2003 the CNRSW was informed that the RWD was incomplete. The March 7<sup>th</sup> letter requested information regarding the chemical characteristics in the regulated discharges and requested priority pollutant information to conduct a reasonable potential analysis (RPA) pursuant to the *Policy for Implementation of Toxic Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*. By letter dated June 5, 2003, the CNRSW informed the Regional Board that some of the requested information may not be available until a later date

because the discharges have not occurred. The tentative Order includes monitoring and reporting requirements to comply with the requested additional information.

The *point source* discharges at the USN Graving Dock are grouped into three general processes:

- a. USN Graving Dock De-flooding Water;
- b. Caisson Gate Ballast Water; and
- c. Emergency Fire Suppression Water.

The tentative Order includes requirements to conduct monitoring for the *California Toxics Rule* (CTR) and the *Policy for Implementation of Toxic Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*. The facility has made some changes during the past 5-years. The industrial storm water generated at the graving dock basin has been isolated from the storm water from the surrounding areas. When a ship is in the graving dock basin for repairs, the Navy diverts industrial storm water to the sanitary sewer. Except for the three point source discharges identified above, the facility diverts all wastes streams to the sanitary sewer system or has the wastes hauled off-site for disposal.

## **I. FACILITY DESCRIPTION**

A location map showing the USN Graving Dock Facility is attached to tentative Order No. R9-2003-0265 as *Attachment A*.

### Installation Location and Description

The USN Graving Dock is located within the Naval Station San Diego (NAVSTA) on the eastern edge of San Diego Bay, about three miles southeast of downtown San Diego and 10 miles north of the Mexican border. The USN Graving Dock is located within the *Chollas Hydrologic Subarea* (908.22) of the *San Diego Mesa Hydrologic Area* (908.20) of the *Pueblo San Diego Hydrologic Unit* (908.00).

The USN Graving Dock facility occupies slightly more than six acres of land just south of Pier five at the NAVSTA. The facility is used for periodic maintenance and repair of U.S. Navy ships. The dock basin is approximately 700 feet long, 104 feet wide, and 42 feet deep and can accommodate vessels up to 688 feet long and 90 feet wide with a 30 foot draft. On average per year the USN Graving Dock has three ships in for repairs or maintenance. During ship repair operations, private contractors perform repair and overhaul work on vessels scheduled by the U.S. Navy, under contract to *Supervisor of Ship Repair and Conversion* (SUPSHIP). Whenever there is no ship repair activity the industrial activity is limited to facility maintenance and vehicle parking. The latitude and longitude for each of the discharges is 32°40'45" north and 117°7'30" west.

## II. POINT SOURCE DISCHARGES

The *point source* discharges identified in the RWD are grouped into three general industrial processes: USN Graving Dock de-flooding (Outfall 001 and 002); Caisson gate ballast water (Outfall 003); and Emergency Fire Suppression Water (Outfall 004).

Descriptions of the waste discharges from the USN Graving Dock are provided below. The descriptions are taken from information in the administrative record as explained above and in the RWD submitted by the CNRSW.

### A. Graving Dock De-flooding Water

After ship docking and undocking, Bay water is pumped from the flooded USN Graving Dock Basin back to the Bay. Prior to flooding the basin, the basin is cleaned and cleared of all debris and residue. During the de-flooding operation, Bay water is used to rinse Bay sediment residue back to the Bay. Since this is essentially a discharge of Bay water back the Bay, Order No. 98-53 and tentative Order No. R9-2003-0265 do not include any limitations or specifications for the de-flooding water discharge. The tentative Order requires the implementation of best management practices to eliminate any potential threat to water quality from the flood water.

### B. Caisson Gate Ballast Water

To dock or undock a ship, the caisson gate is moved by pumping the Bay water from the caisson boxes attached to the gate until the caisson gate floats approximately four feet. Upon floating, the gate is moved from the dock entrance. The caisson gate ballast water is discharged twice each flooding event, that is, once to move the gate after flooding and then to submerge the gate at the dock entrance to seal the entrance once more. The standard position of the gate is submerged with the basin de-flooded. As shown in *Table 1. Caisson Gate Ballast Water Discharge Analysis* the NPDES application included laboratory analysis for the caisson gate ballast water discharges.

**Table 1.** Caisson Gate Ballast Water Discharge Analysis.

Analytical Parameters	2/22/02	01/09/02	01/22/01	03/02/00	05/22/00
Flow (gallons)	50,000	50,000	160,000	160,000	160,000
Oil & Grease (mg/L)	NA	NA	ND	NA	ND
Settleable Solids (ml/L)	NA	NA	ND	NA	ND
Turbidity (mg/L)	0.09	1.4	1.5	NA	0.9
pH (units)	7.4	7.9	7.7	NA	7.4
Temperature (°C)	18.6	15.4	16	NA	21
Total Suspended Solids	11	25	ND	NA	ND

Analytical Parameters	2/22/02	01/09/02	01/22/01	03/02/00	05/22/00
(mg/L)					
Arsenic (mg/L)	NA	NA	ND	NA	ND
Cadmium (mg/L)	NA	NA	ND	NA	ND
Chromium (mg/L)	NA	NA	ND	NA	ND
Copper (mg/L)	NA	NA	ND	NA	ND
Lead (mg/L)	ND	ND	ND	NA	ND
Mercury (mg/L)	NA	NA	ND	NA	ND
Nickel (mg/L)	NA	NA	ND	NA	ND
Silver (mg/L)	NA	NA	ND	NA	ND
Toxicity, acute (% survival)	NA	NA	92	97 - 98	40
Toxicity, chronic (TUc)	NA	NA	<1	<1 - >1	>1
Zinc (mg/L)	0.39	0.42	0.83	NA	0.66
Tributlytin (ug/L)	NA	NA	ND	NA	0.011
PAH (ug/L)	NA	NA	ND	NA	ND
Total Residual Chlorine (mg/L)	ND	ND	ND	NA	NA

ND = not detected

NA = not applicable or not tested

Any leakage from the caisson gate or from the USN Graving Dock floor or walls is isolated in a sump and discharged to the San Diego Metropolitan Sanitary Sewer System (SDMSSS), or if the leakage water fails to meet discharge limits for SDMSSS, the leakage is hauled offsite for proper disposal.

### C. Emergency Fire Suppression (EFS) Water

The EFS system is used only on vessels that require a fire suppression system during ship repair operations. The system is activated whenever there is a loss of electrical power and/or permanent fire system failure. When EFS backup pumps are required, Bay water is supplied to the pumps for continuous priming. A relief valve discharges excess water through Outfall 004 to relieve pressure on the ship's systems. As shown in *Table 2. Emergency Fire Suppression Water Discharge Analysis* the NPDES application included laboratory analyses for the Emergency Fire Suppression water discharges.

**Table 2.** Emergency Fire Suppression Water Discharge Analysis.

Analytical Parameters	2/22/02 fire water	2/23/02 fire water	5/22/00 fire pump
Flow (gallons)	2 gpm	2 gpm	NA
Oil & Grease (mg/L)	NA	NA	ND
Settleable Solids (ml/L)	NA	NA	ND
Turbidity (mg/L)	3.9	NA	1.5
pH (units)	6.7	NA	7.7
Temperature (°C)	23.7	NA	20
Total Suspended Solids (mg/L)	5	NA	ND
Arsenic (mg/L)	NA	NA	ND
Cadmium (mg/L)	NA	NA	ND
Chromium (mg/L)	NA	NA	ND
Copper (mg/L)	NA	NA	ND
Lead (mg/L)	0.01	NA	ND
Mercury (mg/L)	NA	NA	ND
Nickel (mg/L)	NA	NA	ND
Silver (mg/L)	NA	NA	ND
Toxicity, acute (% survival)	94	97	0
Toxicity, chronic (TUc)	<1.0	0.18	>1.00
Zinc (mg/L)	0.25	ND	ND
Tributyltin (ug/L)	NA	NA	ND
PAH (ug/L)	NA	NA	ND
Total Residual Chlorine (mg/L)	ND	ND	NA

ND = not detected

NA = not applicable or not tested

A limited comparison between the point source discharge water quality parameters and San Diego Bay water parameters can be made by reviewing the previous *Tables* and *Table 3. San Diego Bay Reference Water Analysis.*

**Table 3.** San Diego Bay Reference Water Analysis.

Analytical Parameters	2/23/00 SD Bay	5/22/00 SD Bay	1/22/01 SD Bay	1/9/02 SD Bay	2/22/02 SD Bay
Oil & Grease (mg/L)	NA	3.1	ND	NA	NA
Settleable Solids (ml/L)	NA	ND	ND	NA	NA
Turbidity (mg/L)	NA	1.4	0.6	0.6	0.9
pH (units)	NA	7.7	7.9	7.9	7.3
Temperature (°C)	NA	20	15	16.3	18.3
Total Suspended Solids (mg/L)	NA	45	ND	25	5
Arsenic (mg/L)	NA	ND	ND	NA	NA
Cadmium (mg/L)	NA	ND	ND	NA	NA
Chromium (mg/L)	NA	ND	ND	NA	NA
Copper (mg/L)	NA	ND	ND	NA	NA
Lead (mg/L)	NA	ND	ND	ND	ND
Mercury (mg/L)	NA	ND	ND	NA	NA
Nickel (mg/L)	NA	ND	ND	NA	NA
Silver (mg/L)	NA	ND	ND	NA	NA
Toxicity, acute (% survival)	98	92.5	90	NA	95
Toxicity, chronic (TUC)	1	<1	<1.0	NA	<1.0
Zinc (mg/L)	NA	ND	0.02	ND	ND
Tributyltin (ug/L)	NA	0.009	ND	NA	NA
PAH (ug/L)	NA	ND	ND	NA	NA
Total Residual Chlorine (mg/L)	NA	NA	ND	ND	ND

ND = not detected

NA = not applicable or not tested

### III. INDUSTRIAL STORM WATER DISCHARGES

The storm water drainage system at the USN Graving Dock facility is divided into two areas: the topside area, and the basin area. The topside area is isolated from the basin by a concrete berm approximately 30 feet from the basin perimeter. The topside area is used to store materials and

supplies when a ship is in the basin. The storm drains in the topside are sealed when a ship is in the basin for repairs. The industrial storm water runoff discharge from the topside is a sheet flow to the Bay along either the north side and south side of the basin. The USN Graving Dock facility is isolated for any off-site storm water running onto the facility. The storm water in the basin is collected and routed to the SDMSSS.

The USEPA Multi-Sector General Permit for Industrial Activities, *Sector R*, includes requirements for *Ship and Boat Building or Repair Yards*. According to the Multi-Sector Permit, when the industrial storm water discharge has concentrations greater than the *USEPA Benchmark Values* (p. 64767, Table 3), the industrial facility is required to increase monitoring frequencies. Additionally, the Multi-Sector Permit states that the facility operators should review and modify their storm water pollution prevention plans (SWPPP) and BMPs at their facility to try to improve the quality of the storm water discharge when discharge concentrations are greater than the *USEPA Benchmark Values*. The *USEPA Benchmark Value* for copper concentrations is 63.6 µg/L (micrograms/Liter). The *USEPA Benchmark Value* for zinc is 117 µg/L (micrograms/Liter).

Waste generated at the USN Graving Dock includes spent abrasive, paint, rust, petroleum products, marine growth, and general refuse.

As shown in *Table 4. North Side Composite (NSC) and South Side Composite (SSC) Industrial Storm Water Discharge Analysis, 2001/2002* some of the industrial storm water sheet flow discharges may contain significant concentrations of copper or zinc. The metal concentrations in Table 4 are reported in mg/L (milligrams/Liter). In micrograms per Liter (µg/L) the concentrations in Table 4 for copper are 50, 490, 60, and 140, and for zinc are 180, 730, 190, and 610. The storm water sampling occurred when the basin did not have a ship in for repair.

**Table 4.** North Side Composite (NSC) and South Side Composite (SSC) Industrial Storm Water Discharge Analysis, 2001/2002.

Analytical Parameters	SSC 12/04/01	NSC 12/04/01	SSC 12/10/01	NSC 12/10/01
Total Suspended Solids (mg/L)	45	30	27	70
Settleable Solids (ml/L)	ND	ND	ND	ND
pH (units)	7.0	7.2	7.1	7.1
Specific conductivity	173	504	245	408
TPH	ND	ND	ND	ND
TDM	(T)0.006 (D)ND (M)ND	(T)0.009 (D)ND (M)ND	(T)0.006 (D)ND (M)ND	(T)ND (D)ND (M)ND
Arsenic (mg/L)	ND	ND	ND	ND

Analytical Parameters	SSC 12/04/01	NSC 12/04/01	SSC 12/10/01	NSC 12/10/01
Cadmium (mg/L)	ND	ND	ND	ND
Chromium (mg/L)	ND	0.02	ND	ND
Copper (mg/L)	0.05	0.49	0.06	0.14
Lead (mg/L)	0.02	0.17	0.02	0.09
Mercury (mg/L)	ND	ND	ND	ND
Nickel (mg/L)	ND	0.01	ND	ND
Silver (mg/L)	ND	ND	ND	ND
Zinc (mg/L)	0.18	0.73	0.19	0.61
Oil & Grease (mg/L)	ND	ND	ND	ND
COD	32	29	ND	70
TOC	6	10	8	15
Acute toxicity (% survival)	100	100	91.7	93.3

ND = not detected

NA = not applicable or not tested

The USN Graving Dock did not have any industrial activity occurring when the storm water discharges listed in Table 4 were monitored. The monitored discharges were from parking lot activity. When industrial storm water discharges occurs, the Navy diverts the industrial storm water to the sanitary sewer.

The metal concentrations in some of the industrial storm water discharges from USN Graving Dock are significant and are a potential impact to water quality and beneficial uses of San Diego Bay. The Navy implements BMPs to reduce the concentration of pollutants in its storm water discharges. The Navy is diverting the industrial storm water discharges to the sanitary sewer. This diversion reduces or eliminates the discharge of metals to San Diego Bay.

The tentative Order continues to require toxicity specifications for the discharges of industrial storm water, that is, *undiluted storm water runoff associated with industrial activity which is discharged to San Diego Bay shall not produce less than 90 percent survival, 50 percent of the time, and not less than 70 percent survival, 10 percent of the time, using a standard test species and protocol acceptable to the Regional Board.* In Table 4, the survival rate for acute toxicity complies with the permit specification for 90% survival, 50% of the time.

Previously, the Navy has failed to comply with the toxicity limitations for industrial storm water discharges. To comply with the toxicity limitations in its current Order, the Navy has been diverting the discharges of industrial storm water to the sanitary sewer. The toxicity value in Table 4 complied with Order No. 98-53 even though the copper and zinc concentrations were significant. The toxicity values in Table 4 were sampled when the facility did not have a ship in

for repairs. At times, the Navy has also diverted the discharges of caisson gate ballast water to the sanitary sewer in order to comply with the toxicity limitations.

Industrial storm water discharge requirements, specifications, and monitoring and reporting requirements are included in Order No. R9-2003-0265.

## IV. FLOW AND RATING

The reported flow rates for the discharges at USN Graving Dock are listed in *Table 5. Discharge Flow Rates for USN Graving Dock*.

**Table 5.** Discharge Flow Rates for USN Graving Dock.

<b>Discharge</b>	<b>Daily flow (million gallons)</b>	<b>Annual flow (million gallons)</b>
USN Graving Dock de-flooding	20.20	60.60
Caisson gate ballast water	0.050	0.150
Emergency Fire Suppression Water	0.0075	0.45
Total flow =	20.2575	61.20

Pursuant to the *NPDES Permit Rating Worksheet*, the proposed discharge from the USN Graving Dock has a point score of 500. The point score includes a rationale to make the facility a *discretionary major*. The rationale for a discretionary major classification is that the facility conducts ship modification and repair activities. Significant industrial activities occur at the facility and significant storm water discharges may occur.

Accordingly, the USN Graving Dock is classified as an NPDES *Major Discharger*.

## V. BASIS FOR CONDITIONS IN THE WASTE DISCHARGE REQUIREMENTS (WDR)

### A. Comprehensive Water Quality Control Plan, San Diego Basin (9) (Basin Plan)

The Basin Plan (p. 2-47, *Table 2-3. Beneficial Uses of Coastal Waters*) established the following beneficial uses for the waters of San Diego Bay:

1. Industrial Service Supply;
2. Navigation;
3. Contact Water Recreation;

4. Non-contact Water Recreation;
5. Commercial and Sport Fishing;
6. Preservation of Biological Habitats of Special Significance;
7. Estuarine Habitat;
8. Wildlife Habitat;
9. Rare, Threatened, or Endangered Species;
10. Marine Habitat;
11. Migration of Aquatic Organisms; and
12. Shellfish Harvesting.

The Basin Plan includes the following narrative as a water quality objective, which is applicable to the discharge:

*Water Quality Objectives for Toxicity:*

*All waters shall be maintained free of toxic substances in concentrations that are toxic to, or that produce detrimental physiological responses in human, plant, animal, or aquatic life.*

*Compliance with this objective will be determined by use of indicator organisms, analyses of species diversity, population density, growth anomalies, bioassays of appropriate duration, or other appropriate methods as specified by the Regional Board.*

*The survival of aquatic life in surface waters subjected to a waste discharge or other controllable water quality factors, shall not be less than that for the same water body in areas unaffected by the waste discharge or, when necessary, for other control water that is consistent with requirements specified in U.S. EPA, State Water Resources Control Board or other protocol authorized by the Regional Board. As a minimum, compliance with this objective as stated in the previous sentence shall be evaluated with a 96-hour acute bioassay.*

*In addition, effluent limits based upon acute bioassays of effluents will be prescribed where appropriate, additional numerical receiving water objectives for specific toxicants will be established as sufficient data become available, and source control of toxic substances will be encouraged.*

Radiological

Attached is a memorandum dated 22 July 2002, written for the Fact Sheet for Order No. R9-2002-0002, *Waste Discharge Requirements for U.S. Navy, Naval Base Point Loma, San Diego County*. Radiological concerns are explained and identified in the 22 July 2002 memorandum.

Prohibitions

The Basin Plan and the Enclosed Bays and Estuary Policy directly apply to the proposed discharges. The applicable prohibitions from the *Basin Plan*, and the *Enclosed Bays and Estuary Policy* are incorporated into the tentative Order and the MRP.

## **B. Enclosed Bays and Estuaries Policy, Nonmunicipal Waste Discharges**

The State Water Resources Control Board (hereinafter State Board) adopted a *Water Quality Control Policy for Enclosed Bays and Estuaries of California (Bays and Estuaries Policy)* on May 16, 1974. The *Bays and Estuaries Policy* establishes principles for management of water quality, quality requirements for waste discharges, discharge prohibitions, and general provisions to prevent water quality degradation and to protect the beneficial uses of waters of enclosed bays and estuaries. These principles, requirements, prohibitions, and provisions have been incorporated into this tentative Order.

The *Bays and Estuaries Policy* contains the following principle for management of water quality in enclosed bays and estuaries, which includes San Diego Bay:

*The discharge of municipal wastewaters and industrial process waters (exclusive of cooling water discharges) to enclosed bays and estuaries shall be phased out at the earliest practicable date. Exceptions to this provision may be granted by a Regional Board only when the Regional Board finds that the wastewater in question would consistently be treated and discharged in such a manner that it would enhance the quality of receiving waters above that which would occur in the absence of the discharge. For the purpose of this policy, treated ballast waters and innocuous nonmunicipal wastewater such as clear brines, washwater, and pool drains are not necessarily considered industrial process wastes, and may be allowed by Regional Boards under discharge requirements that provide protection to the beneficial uses of the receiving water.*

As explained in the *Point Source Discharge* section, the point source discharges, other than industrial storm water runoff, can be considered to be innocuous because of the nature of the discharges or the volume of the discharges. If a significant or material change occurs in the discharges (i.e. chemical concentrations, physical properties, location, volume, or frequency), the potential impact to beneficial uses may change or cause a violation of the tentative Order No. R9-2003-0265. Any change in either the nature or volume of the discharges can be readily identified and evaluated through the monitoring requirements specified in *MRP No. R9-2003-0265*.

For the purpose of the *Bays and Estuaries Policy* and tentative Order No. R9-2003-0265, the discharge of the following wastes will be considered innocuous nonmunicipal wastewaters and, as such, will not be considered industrial process wastes:

1. USN Graving Dock De-flooding;
2. Caisson Gate Ballast Water; and
3. Emergency Fire Suppression Water.

Therefore, the discharges of such wastes as stated in the *Bays and Estuaries Policy* may be allowed by the Regional Board under waste discharge requirements that provide protection of the beneficial uses of the receiving waters. Tentative Order No. R9-2003-0265 includes

requirements, prohibitions, provisions, and monitoring that protect the beneficial uses of the receiving waters.

### **C. California Toxics Rule and Implementation Policy**

On May 18, 2000, the *U.S. Environmental Protection Agency* (USEPA) promulgated the *California Toxics Rule* (CTR), 40 CFR 131.38. The CTR restored California's water quality standards for inland surface waters. The previous inland surface waters plan, which contained water quality criteria for priority toxic pollutants, was dismissed in 1994 when a State court overturned the State Board's plan.

The water quality criteria established in the CTR, 40 CFR 131.38, is legally applicable in the State of California for inland surface waters, and enclosed bays and estuaries for all purposes and programs under the Clean Water Act.

On March 2, 2000, the State Board, in *Resolution No. 2000-15*, adopted a *Policy for Implementation of Toxic Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (Implementation Policy). The Policy implements the criteria for the 126 priority pollutants in the CTR. The State Board's Policy became effective on April 28, 2000, as applied to the *National Toxics Rule* and to the CTR.

The Policy establishes:

- a) implementation provisions for priority pollutant criteria promulgated by the USEPA through the NTR and the CTR, and for priority pollutant objectives established in the Basin Plan;
- b) monitoring requirements for 2,3,7,8-TCDD (tetrachlorodibenzo-p-dioxin) equivalents; and
- c) chronic toxicity control provisions.

MRP No. R9-2003-0265 requires the discharger to conduct an initial sampling of the EFS water and caisson gate ballast water discharges and the receiving waters for the priority pollutants and dioxin congeners as specified in the Implementation Policy. The discharger shall conduct one initial sample analyses of the discharges for the pollutants listed in the Implementation Policy.

Once the monitoring for the priority pollutants is submitted to and evaluated by the Regional Board, the Regional Board may either:

- a. request additional priority pollutant monitoring pursuant to Section 13267 of the Porter-Cologne Water Quality Control Act;

- b. determine that there is no reasonable potential for the discharge to cause an exceedence of the water quality criteria; or
- c. reopen the Order and recommend discharge limits for priority pollutants in the discharge that have a reasonable potential to cause an exceedence of the water quality criteria.

Pursuant to *Section 1.4.4 Intake Water Credits* (p. 17) of the Implementation Policy, a Regional Board may consider priority pollutants in the intake water on a pollutant-by-pollutant and discharge-by-discharge basis when establishing water quality-based effluent limitations. Certain discharges from the USN Graving Dock may qualify for Intake Water Credits.

#### **D. Clean Water Act (CWA) Section 303(d) List**

In February 1998, the Regional Board included portions of San Diego Bay as an impaired water body pursuant to the Clean Water Act, Section 303(d). One of the locations is at the NAVSTA, the location of the USN Graving Dock. The listing was the result of information gathered for the *Chemistry, Toxicity and Benthic Community Conditions in Sediments of the San Diego Bay Region, Final Report, September 1996* (commonly known as the report for the *Bay Protection and Toxic Cleanup Program* (BPTCP)). The data gathered pursuant to the BPTCP caused the Regional Board to declare 76 acres of the NAVSTA area impaired because of benthic community effects and sediment toxicity. The tentative Order continues to require annual sediment monitoring.

## **VI. PUBLIC HEARING**

Tentative Order No. R9-2003-0265 is scheduled to be considered by the San Diego Regional Board at a public hearing on:

**August 13, 2003** beginning at 09:00 at the following location:

Water Quality Control Board  
Regional Board Meeting Room  
9174 Sky Park Court, Suite 100  
San Diego, California 92123-4340

## **VII. WASTE DISCHARGE REQUIREMENTS REVIEW**

For additional information regarding tentative Order No. R9-2003-0265, interested persons may write to the following address or call Mr. Paul J. Richter of the Regional Board staff at (858) 627-3929.

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## VIII. REFERENCES

Analysis of Administrative Civil Liability, Complaint No. 2001-24, National Steel and Shipbuilding Company, January 30, 2001.

Analysis of Administrative Civil Liability, Complaint No. 2001-138, SouthWest Marine, May 14, 2001.

Analysis of Administrative Civil Liability, Complaint No. 2001-113, Continental Maritime of San Diego, June 15, 2001.

California Toxics Rule, 40 CFR 131.38.

Chemistry, Toxicity and Benthic Community Conditions in Sediments of the San Diego Bay Region, Final Report, September 1996.

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- b. North Island Naval Air Station, inspection conducted on July 12, 2000, P.J. Richter.
- c. Navy Base, Point Loma, inspection on July 26, 2000, P.J. Richter.
- d. Naval Station 32<sup>nd</sup> Street, inspection conducted on August 8, 2000, P.J. Richter.
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- f. Navy Graving Dock—Sediment Sampling, inspection conducted on March 15, 2001, P.J. Richter.
- g. Naval Base, Point Loma, inspection conducted on April 16, 2002, P.J. Richter.
- h. North Island Naval Air Station, inspection on January 21, 2003, P.J. Richter.

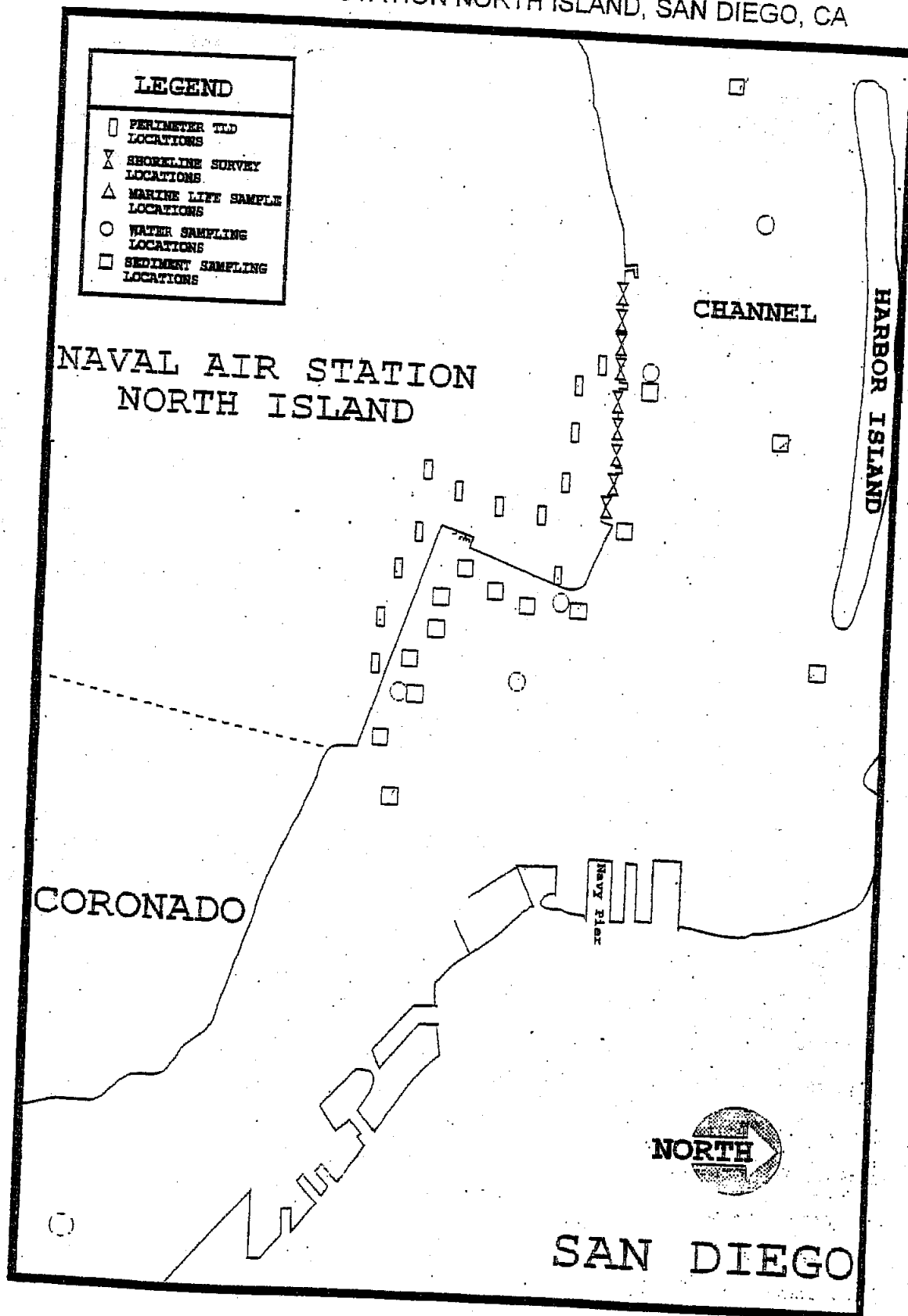
Report of Waste Discharge and supplemental information received on February 11, 2003:  
*Commander, Navy Region Southwest, National Pollutant Discharge Elimination System (NPDES) Permit Application for U.S. Navy Graving Dock Facility; Located at: Naval Station San Diego, California, RWQCB Order No. 98-53; Submitted to: Regional Water Quality Control Board, San Diego Region.*

SWRCB, Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan).

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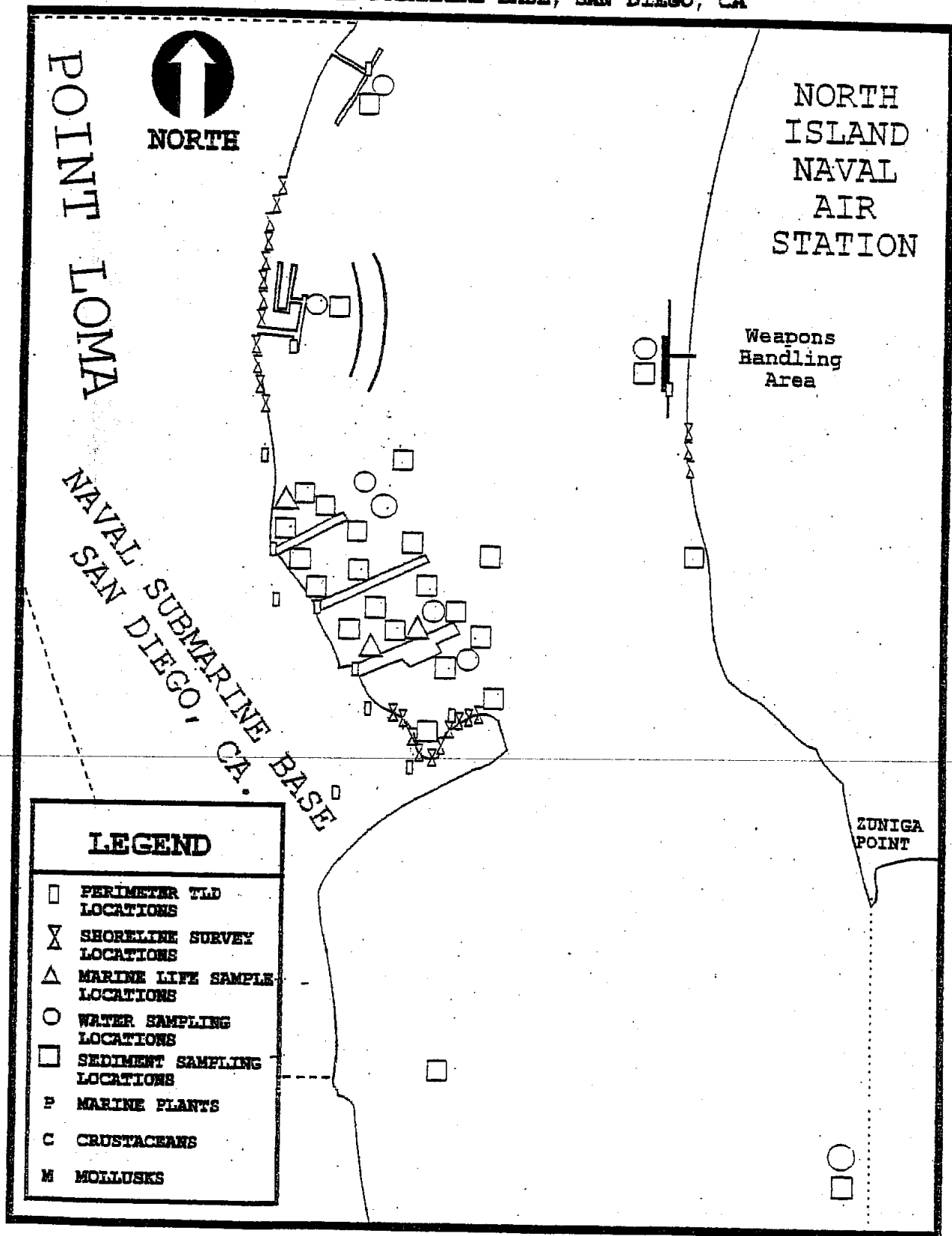
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FIGURE 1  
 ENVIRONMENTAL MONITORING LOCATIONS AT  
 U.S. NAVAL AIR STATION NORTH ISLAND, SAN DIEGO, CA



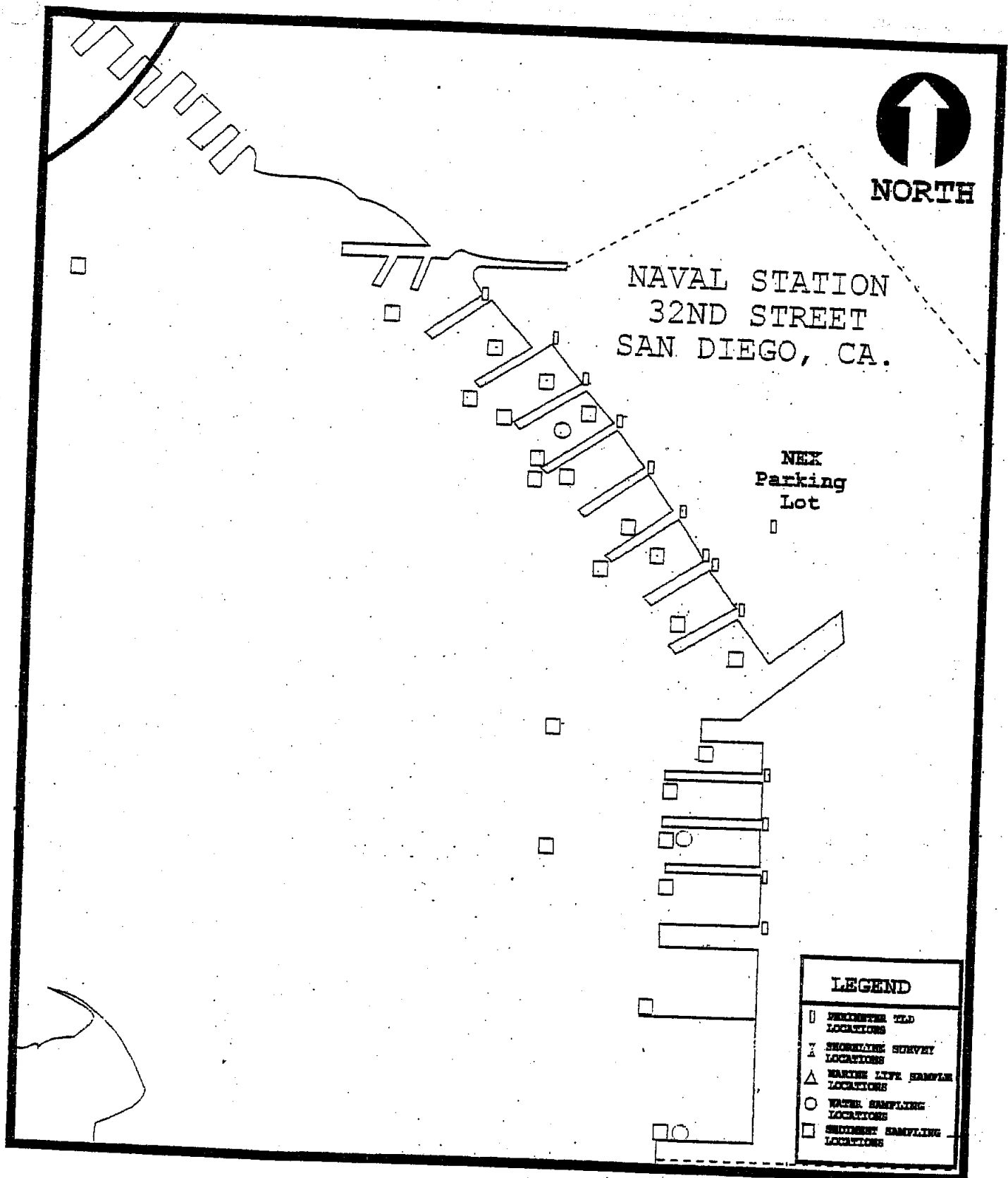
From: Report NT-02-01, March 2002

FIGURE 2  
ENVIRONMENTAL MONITORING LOCATIONS AT  
U.S. NAVAL SUBMARINE BASE, SAN DIEGO, CA



From: Report NT-02-01, March 2002

FIGURE 3  
ENVIRONMENTAL MONITORING LOCATIONS AT  
U.S. NAVAL STATION 32<sup>ND</sup> STREET, SAN DIEGO, CA



From: Report NT-02-01, March 2002



# California Regional Water Quality Control Board

## San Diego Region

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**TO: Attachment to Fact Sheet for tentative Order No. R9-2002-0002**

**File #03-538.02**

**U.S. Navy, Naval Base Point Loma (NBPL)**

**FROM: Paul J. Richter, WRCE**  
**SAN DIEGO REGIONAL WATER QUALITY CONTROL BOARD**

**DATE: 22 July 2002**

**SUBJECT: Hull coating leachate, underwater hull cleaning (*underwater ship husbandry*), and radioactivity concerns mentioned during workshop on 27 June 2002**

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This memorandum will be attached to the Fact Sheet for tentative Order No. R9-2002-0002. During the workshop for the Naval Base Point Loma, the interested parties discussed hull coating leachate, underwater ship husbandry, and radioactive discharges.

Regulation and monitoring of hull coating leachate, and underwater ship husbandry will not be included in the tentative Order. Hull coating leachate, and underwater ship husbandry will be regulated pursuant to the *Uniform National Discharge Standards for Vessels of the Armed Forces*.

Radioactive discharges are not subject to regulation by the Regional Board. The Navy and the Department of Energy have jurisdiction for discharges of radioactive material. The *Naval Nuclear Propulsion Program* has a quarterly monitoring program for radioactive discharges. The United States Environmental Protection Agency (USEPA) has also conducted a separate, one-time monitoring program for radioactivity.

The monitoring conducted by the *Naval Nuclear Propulsion Program*, and by the USEPA identified radioactivity at naturally occurring background levels, at levels from atmospheric nuclear testing, and at levels associated with the Chernobyl reactor accident in 1986. Low level cobalt radioactivity was found in one sediment core sample at the Submarine Base (SUBASE) at the Naval Base Point Loma complex. The radioactivity level found at SUBASE was not at a level that would pose a threat to the environment or human health.

Radioactivity monitoring will not be included in the tentative Order. The *Naval Nuclear Propulsion Program* conducts quarterly monitoring of sediments, surface water, and marine life for its environmental monitoring program for the nuclear propulsion program. The Regional Board can review the *Naval Nuclear Propulsion Program* reports.

Provided below is a brief description of the documents reviewed and included in the Regional Board's administrative file regarding hull

### ***California Environmental Protection Agency***

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coating leachate, underwater ship husbandry, and radioactive discharges and monitoring.

### Hull Coating Leachate

*Phase I of the Uniform National Discharge Standards for Vessels of the Armed Forces (UNDS)* has identified *hull coating leachate*, and *underwater ship husbandry* as discharges determined to require a *marine pollution control devise (MPCD)*.

Hull coating leachate is the ablative discharge of anti-corrosion (AC) and anti-fouling (AF) paints from ship hulls to the surrounding waters. In the UNDS, Phase I study, three bays: San Diego, CA; Mayport, FL; and Pearl Harbor, HI, were analyzed and were included in calculations to determine the increase of copper concentrations from Navy Vessels for the respective Bay. The increase was based upon the calculated copper and zinc ablative discharges from the hull surfaces and upon the tidal prism of the respective Bay. The MPCD for hull coating leachate is being developed in Phase II of the UNDS.

For San Diego Bay, the increase of copper from hull coating leachate was calculated to be 0.19 µg/L. For San Diego Bay, the increase of zinc from hull coating leachate was calculated to be 0.074 µg/L (*Nature of Discharge (NOD) report, Hull Coating Leachate, Table 5. Estimated Copper and Zinc Contributions to Some Ports of the Armed Forces, . . . Technical Development Document.*)

Underwater ship husbandry discharges include underwater hull cleaning, propulsor (i.e., propeller) lay-up, welding, sonar dome repair, non-destructive testing, masker belt repair, and painting operations. These ship husbandry operations are normally conducted pierside.

Underwater hull cleaning and propulsor lay-up are the most frequent husbandry operations and have the highest potential for water quality impacts. The other ship husbandry operations were identified as having a low potential impact to water quality.

Divers using mechanical brush systems conduct underwater hull cleaning. According to the Phase I study, copper and zinc are released during the cleaning at concentrations that may exceed State water quality standards. The copper and zinc discharges are from the AC and AF hull coatings. The UNDS has identified this discharge as needing MPCD. The underwater hull cleaning will be regulated as an *underwater ship husbandry discharge* pursuant to UNDS.

Propulsor lay-up requires the placement of a vinyl cover over the propulsor to reduce fouling of the propulsor when the vessel is in port for extended periods. Chlorine-produced oxidants are generated from impressed current cathodic protection systems and can buildup within the cover. The discharges from the propulsor lay-up are infrequent and low volume. The propulsor lay-up will be regulated as an *underwater ship husbandry discharge* pursuant to UNDS.

In UNDS, Phase II, the EPA and other federal and state organizations shall develop MPCD (performance standards) for the 25 identified



discharges, which include underwater hull cleaning and underwater ship husbandry. The MPCD performance standards may include best management practices (BMP), administrative practices, or engineered systems.

In UNDS, Phase III, the MPCD performance standards will be codified. Upon the completion of UNDS, Phase III, the States or local political subdivisions, may not adopt or enforce any State or local statute or regulations with respect to the discharges identified as requiring MPCD, except to establish a no discharge zone (CWA §312(n)(6)).

## Radioactivity

### Navy Monitoring Program

The U.S. Navy has an environmental monitoring program to assess the effect of disposal of radioactive wastes from U.S. naval nuclear propulsion plants and their support facilities. The *Naval Nuclear Propulsion Program* monitoring program consists of analyzing sediment, surface water, and marine life samples for radioactivity associated with naval nuclear propulsion plants and their support facilities. The sampling is conducted quarterly. Additionally, shore facilities are continually monitored for airborne gamma-emitting radioactivity.

San Diego Bay is one of the harbors included in the Navy's nuclear monitoring program. The most current radiological monitoring results were published in *Environmental Monitoring and Disposal of Radioactive Wastes from U.S. Naval Nuclear-Powered Ships and Their Support Facilities*, Report NT-02-01, March 2002. The monitoring data was collected in 2001.

The radioactive material expected to be released and detected in the environment is cobalt 60 and other gamma-emitting radionuclides. In and around the Point Loma SUBASE, the U.S. Navy monitored 25 sediment locations, 8 water sampling locations, and 2 marine life sampling locations. Numerous shore line locations were also monitored for airborne gamma-emitting radioactivity (see attached Figures 1 through 3).

According to the environmental monitoring data, the naval nuclear propulsion plants and their support facilities have not caused a measurable increase in the general background radioactivity in the surface water environment of San Diego Bay. Low level cobalt 60 radioactivity in a core sediment sample was identified at the SUBASE. The low level cobalt 60 radioactivity level was not considered a threat to the environment or human health.

### USEPA Radiological Survey

The USEPA conducted a radiological survey of San Diego Bay. The results were published in *Radiological Survey of Naval Facilities on San Diego Bay*, EPA-402-R-98-011, January 1999. Conclusion #6, from the USEPA is copied below.



*6. Based on this Radiological survey, practices regarding nuclear-powered warship operations at San Diego Harbor have resulted in no increases in radioactivity causing significant population exposure or contamination of the environment.*

The USEPA survey included surface water samples, harbor sediment and shoreline samples, sediment core samples, drinking water samples, and biota samples. These samples were taken at the U.S. Naval installations where nuclear propulsion vessels are located and where nuclear support facilities exist. Background sample locations were selected to be representative of levels of naturally occurring or existing radionuclides were present but not related to the U.S. Navy facilities. A total of 132 sample were collected. Many samples were split for independent comparisons by the Navy. For approximately 5% of each type of sample, a quality control duplicate sample was collected.

The USEPA survey also indicated that a sediment core sample from the piers at SUBASE contained low-level cobalt 60 radioactivity. The levels were not considered a significant threat to the environment or human health.

## References

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Radiological Survey of Naval Facilities on San Diego Bay, EPA-402-98-011, January 1999.

The United States Naval Nuclear Propulsion Program, Over 114 Million Miles Safely Steamed on Nuclear Power, August 1998.

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